



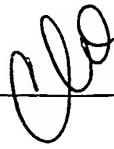
# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,061	10/14/2003	Oleg Nalgotov		5713
7590 09/10/2004				
Ilya Zborovsky 6 Schoolhouse Way Dix Hills, NY 11746				
			EXAMINER VERDIER, CHRISTOPHER M	
			ART UNIT 3745	PAPER NUMBER

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/685,061	<b>Applicant(s)</b> NALJOTOV ET AL.	
	<b>Examiner</b> Christopher Verdier	<b>Art Unit</b> 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### *Drawings*

Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

The disclosure is objected to because of the following informalities: Appropriate correction is required.

On page 2, line 2, after "2001", --, now U.S. Patent 6,632,069 -- should be inserted.

On page 6, line 9, "anohter" should be changed to -- another --.

On page 6, line 18, -- a -- should be inserted after "covering".

On page 8, line 15, -- the -- should be inserted before "shroud".

On page 8, line 15, -- the -- should be inserted after "of".

### *Examiner's Suggestions to Claim Language*

The following are suggestions to improve the clarity and precision of the claims:

In claim 4, line 2, -- d -- may be inserted after "diameter".

*Claim Objections*

Claim 5 is objected to because of the following informality: Appropriate correction is required.

In claim 5, line 3, -- an -- should be inserted after "on".

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 57-65,803 (figures 3, 5, 7, and 13). Note the axial flow fluid machine operating with steam or gas, comprising an unnumbered stationary housing (having seals 14 attached thereto), a rotor member having an inner disc 9, an outer shroud 8, and a plurality of blades 10 mounted between the disc and shroud, with the shroud at least over a portion of it being provided with a plurality of throughgoing openings 16, 22 formed so that steam or gas flowing radially outwardly through the openings inherently prevents formation of metal and salt oxides on an inner surface of the outer shroud, with the openings being uniformly distributed over the portion of the outer shroud.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 55-146,201 (figures 1-2 and 4). Note the axial flow fluid machine operating with steam or gas, comprising a stationary housing 20, a rotor member having an inner disc 2R (shown in figure 2),

Art Unit: 3745

an outer shroud 28, and a plurality of blades 27 mounted between the disc and shroud, with the shroud at least over a portion of it being provided with a plurality of throughgoing openings 40 formed so that steam or gas flowing radially outwardly through the openings inherently prevents formation of metal and salt oxides on an inner surface of the outer shroud, with the openings being uniformly distributed over the portion of the outer shroud.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by United Kingdom Patent 826,669. Note the axial flow fluid machine operating with steam or gas, comprising a stationary housing 1, a rotor member having an inner disc 2, an outer shroud 16, and a plurality of blades 10 mounted between the disc and shroud, with the shroud at least over a portion of it being provided with a plurality of throughgoing openings 44 formed so that steam or gas flowing radially outwardly through the openings inherently prevents formation of metal and salt oxides on an inner surface of the outer shroud, with the openings being uniformly distributed over the portion of the outer shroud. Openings 41, 42 may also be formed in any of the outer shrouds and are located in a staggered fashion (page 3, lines 3-34).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Wisser 4,534,701 in view of Japanese Patent 55-146,201. Wisser discloses an axial flow fluid machine substantially as claimed operating with steam or gas, comprising an unnumbered stationary housing, a rotor member having an outer shroud 12, and a plurality of blades 10 mounted to the shroud, with the shroud at least over a portion of it being provided with a plurality of throughgoing openings 28 formed so that steam or gas flowing radially outwardly through the openings inherently prevents formation of metal and salt oxides on an inner surface of the outer shroud, with the openings being uniformly distributed over the portion of the outer shroud. However, Wisser does not disclose that the rotor member has an inner disc, with the blades mounted to the inner disc.

Japanese Patent 55-146,201 (figures 1-2) shows an axial flow fluid machine operating with steam or gas and having a rotor member having an inner disc 2R (shown in figure 2), an

outer shroud 28, and a plurality of blades 27 mounted between the disc and shroud, for the purpose of securely mounting the blades to the disc and shroud.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the axial flow machine of Wisser such that the rotor member has an inner disc, with the blades mounted to the inner disc, as taught by Japanese Patent 55-146,201, for the purpose of securely mounting the blades to the disc and shroud.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 55-146,201 in view of either (Applicants' Prior Art Figures 1-2 or Dinc 6,139,019). Japanese Patent 55-146,201 discloses an axial flow fluid machine substantially as claimed as set forth above, including seals 31-34 located on an inner surface of the stationary housing 29 radially facing the outer shroud 28, which form two radial clearances  $h_1$  and  $h_2$  between the rotor member and the housing as considered in a flow direction, but does not disclose that the clearance  $h_2$  is smaller than  $h_1$  in the flow direction.

Applicants' Prior Art Figures 1-2 shows an axial flow fluid machine including seals 4, 5 located on an inner surface of a stationary housing 3 radially facing an outer shroud 8, which form two radial clearances  $h_1$  and  $h_2$  between the rotor member and the housing as considered in a flow direction, with the clearance  $h_2$  being smaller than  $h_1$  in the flow direction, for the purpose of reducing flow leakage in the direction of flow along the housing. Dinc (figures 4-5) shows an axial flow fluid machine including seals 64 and 66 (figure 4), and 76 and unnumbered

Art Unit: 3745

(figure 5) located on an inner surface of a stationary housing radially facing an outer shroud 70, 74 which form two radial clearances h1 and h2 between the rotor member and the housing as considered in a flow direction, with the clearance h2 being smaller than h1 in the flow direction, for the purpose of reducing flow leakage in the direction of flow along the housing.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the axial flow machine of Japanese Patent 55-146,201 such that the clearance h2 is smaller than h1 in the flow direction, as taught by either Applicants' Prior Art Figures 1-2 or Dinc, for the purpose of reducing flow leakage in the direction of flow along the housing.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 3745

Claims 1, 2, 3, and 5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable all over claim 1 of U.S. Patent No. 6,632,069. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the patent "anticipates" application claims 1-3 and 5. Accordingly, the application claims are not patentably distinct from patent claim 1. Here, patent claim 1 requires the shroud seals including two sealing elements located on an outer surface of the outer shroud or on inner surface of the stationary housing radially facing the outer shroud, with the sealing elements providing two radial clearances  $h_1$  and  $h_2$  between the rotor member and the housing as considered in a flow direction, with clearance  $h_2$  being smaller than clearance  $h_1$ , radial openings, with the openings being either distributed evenly or staggered, with the openings following the equation recited in claim 1, last line of U.S. Patent No. 6,632,069, while application claims 1-3 and 5 variously do not require these features in combination. Thus it is apparent that the more specific patent claim 1 encompasses the application claims. Following the rationale in *In re Goodman* cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific or narrower invention, applicant may not then obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate terminal disclaimer. Note that since the application claims are anticipated by patent claim 1 and since anticipation is the epitome of obviousness, then the application claims are obvious over patent claim 1.

Art Unit: 3745

*Prior Art*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Beeck, Harvey, Halliwell, Vincent de Paul, Pope, Borufka, Wolff, Huber, and Gross were cited in the parent application.

*Allowable Subject Matter*


Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (703)-308-2638. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (703) 308-1044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.  
September 3, 2004

  
Christopher Verdier  
Primary Examiner  
Art Unit 3745